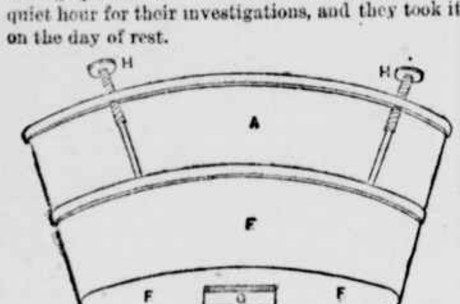
THE TELEPHONE.

SPEECH AND MUSIC BY TELEGRAPH.

MEN OF SCIENCE TALKING BY WIRE—WHY AND HOW THE SPEAKING TELEGRAPH OPERATES—SENDING MUSIC THROUGH HUMAN FLESH—THE TWO TELEPHONES, AND THE DISTINCTION BETWEEN THEM.

On one of the hottest days of last July the telephone made its entry into good society. Sweltering crowds had for a month been elbowing each other beneath the glass roofs of the Centennial buildings and making the daily discovery that Philadelphia was a hot city. The finest opportunity the world can ever offer to test the virtues of blue glass was then allowed to pass by without experiment. Anything that could have modified Fairmount sunshine would at that time have been heartily welcomed. A goodly number of scientific gentlemen added their perspiring efforts to those of the crowd, and attempted more minute studies than the ordinary sightseers. There was an immense amount of hard and thorough scientific work done at Philadelphia last year, of which the story has never yet been told. Among the various forms of labor laid out for the Judges of Awards there was one which in its very nature required knowledge, training, patience, care—that of determining the merits of the instruments of precision and research which were exhibited. It is not at all surprising that the gentlemen who had this to do found it no light undertaking in the heat and hurry of those midsummer days. Certainly it was not an easy matter to form a correct judgment about a delicate scientific contrivance while thirty thousand American citizens were prying about the place, staring, pushing, or worse still, asking questions. The men of science wanted a quiet hour for their investigations, and they took it, on the day of rest.



A TELEPHONE FUNNEL.

So, on a sultry Sunday morning, hotter according to the thermometer than any day before it last year, a small group of gentlemen entered the Main Building and stationed themselves in the gallery at the east end. The party divided, and half went to each end of the gallery. The great organ was between, and neither half of the party could hear or see the other. Then Prof. A. Graham Bell brought out his telephone. Wires for telegraphing were laid along the gallery; a battery was set at work, and a continuous current was sent along the line. The stations on this line were only two; one at each end of the gallery. At each station there was a little, ordinary electro-magnet, such as people see usually on the table in a small telegraph office, and are in general familiar with. Beside the magnet there was nothing except a few funnels. These were of different shapes, but they agreed in each having one end covered with stretched parchment, like a drum-head. On the center of each of these drum-heads, outside, a small plate of metal, G, was cemented fast. The diagram shows a more elaborate form of the funnel, one that is provided with a movable ring or hoop (below the letter A) which can be adjusted by set-screws, H, H. By these means the parchment, F, F, F, over the end of the funnel, can be made tighter or looser. In the earlier stages of the invention the funnel was used for receiving as well as for sending sound. The instructions for use were very simple. The sender of a message was to talk into one funnel; the receiver was to apply the other funnel to his ear. Each was to hold his funnel so that the parchment would be opposite the poles of the electro-magnet, and very close to them; just so that the little piece of metal, G, mounted on the parchment, should not quite touch the poles.

THE WIRE SPEAKS WITH HUMAN VOICE.

The Emperor of Brazil, who had joined the party by special invitation, was offered the opportunity of leading off in the experiments, but he courteously waived the precedence. Among the first to make himself heard and recognized through the wire was Prof. J. E. Hilgard. The friends of that genial professor will readily imagine how his eyes twinkled as he put the funnel to his lips and uttered in it the words—

"Dr. Draper! Dr. Draper! Do you hear me?"

Dr. Draper was standing at the other end of the gallery, holding a funnel to his ear.

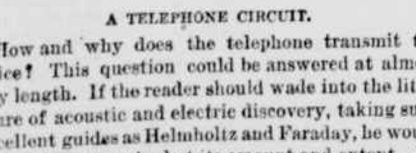
"Why!" he exclaimed, "That's Hilgard's voice. I know it by the accent."

In fact, peculiarities of accent and inflections of voice were given at least quite as plainly as syllables. The Scotch pronunciation of Sir William Thomson was recognized at once; Prof. Watson, the able-bodied astronomer of Ann Arbor, carried on a vigorous conversation with him. Prof. Morton of Hoboken obtained a hearing without difficulty; whether Prof. F. A. P. Barnard did, is more than doubtful. There had been many different opinions among these experts as to the possibilities of the instrument. Some of the professors thought it would only give tones and intervals of speech; one was quite sure that it would fail with certain vowels; another was equally certain that it would be tripped up by consonants. Nobody expected it to do what it actually did—to give the whole sound of voice and words naturally. Sir William Thomson tested it carefully on these points. One of the party took from his pocket a TRIBUNE and read from it, into the funnel, various paragraphs. It was the paper of the previous Monday, June 26. The Democratic Convention was then in session at St. Louis. One of the paragraphs was from the St. Louis dispatches of THE TRIBUNE, and began, "S. S. Cox has arrived." The sole adverse criticism of Sir William Thomson on this reading was that he did not hear the "S. S." distinctly. Another paragraph which was plainly heard throughout, was from the Foreign Summary in the same paper, containing the words "The Americans in London are preparing to celebrate the Fourth of July." It is not necessary to repeat here the compliments to Dom Pedro that were wafted on the wire, nor his amiable replies. Neither would it be profitable to report the chaff which passed between the professors, such as:

"When you go home you can tell o' fun on the telephone."

"No more o' that, Hal! Already this thing takes my breath away."

It may be hoped that the whole party, after this dip into the mysteries of nature, turned more heartily to those of religion and spent the afternoon in church.

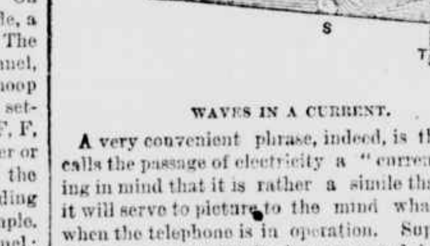


A TELEPHONE CIRCUIT.

How and why does the telephone transmit the voice? This question could be answered at almost any length. If the reader should wade into the literature of acoustic and electric discovery, taking such excellent guides as Helmholtz and Faraday, he would probably be surprised at its amount and extent. He would be likely also to find the waters very deep and the bottom somewhat uncertain, before he reached dry land and a clear theory of the telephone. As to construction, Prof. Bell's instrument is simple enough. In the diagram, a continuous flow of electricity is supposed to be proceeding along the wire, from one of the poles of the battery C, through the electro-magnet BB, and the cup-like receiver D (having a vibrating lid), and finally back again to the other pole of the battery. The metallic receiver D is said to be more effective than the stretched membrane; practically it combines the funnel, the membrane, and the electro-magnet in a single contrivance. It is described as being itself a tubular electro-magnet formed of a single helix cased in soft iron. The lid is represented as only in part secured at the edge, and it is capable of vibration, being attracted or repelled when a current is passing through the helix. The thickness of the lid is about that of cartridge paper. In vibrating it gives out sound. This part of the invention is attributed to M. Nicles, and is 25 years old. In some recent descriptions of Prof. Bell's apparatus a thin metallic disk is also referred to as having been used for receiving the sounds instead of a stretched membrane. The upper wire E, as shown in the diagram, is a return wire to complete the circuit. The return wire is not needed where connection with the earth can be made at the ends of the line, as it is in the ordinary practice of telegraphy.

WHAT HAPPENS IN THE WIRE.

When the small piece of metal, G, fig. 1, that is mounted on the membrane A, is brought near to the poles of the electro-magnet BB, there is a change produced in the strength of the current which is all the time passing along the line. This can be very easily proved. Suppose that at the point X a galvanometer is introduced into the circuit. The galvanometer is an instrument in shape like a compass. The needle which it carries turns from zero point a certain number of degrees, according to the strength of any electric current passing through the instrument. Hence the motion of the needle from the zero point measures the strength of the current. Let us suppose that the current, passing through the wire E, is sufficient to turn the needle from 0° to 50°. Then when a piece of metal, such as the one mounted on the membrane, or indeed any bar of soft iron, is brought close to the poles of the electro-magnet, or laid upon them, the needle of the galvanometer moves at once, and indicates a disturbance of the strength of the current. When the piece of metal is taken away from the electro-magnet, the galvanometer again shows a change in the strength of the current, but its recording needle then moves in an opposite direction. How is this explained? Well, there are several theories which, strange to say, are not particularly inconsistent with each other. The current may be conceived of as doing work, and hence losing strength, when it has to pull at the piece of metal presented to the poles; it then has less strength left to show on the galvanometer. Of course the pull is harder and the expenditure of strength in doing work is greater the nearer the iron approaches the poles. The other half of this explanation is not so simple. Electricians would say that when the iron is lifted from the poles a reverse current is caused by "induction." To explain all about "induction" would require too much of space and of patience. If the reader takes kindly to the notion that the strength of the current may be decreased by the work that it does when it attracts the metallic piece G, he can perhaps also conceive that when that piece of metal is removed from the poles a certain portion of the work done by the experimenter's arm in removing the metal may be transmuted into an addition to the strength of the electric current in the wire.



WAVES IN A CURRENT.

A very convenient phrase, indeed, is that which calls the passage of electricity a "current." Bearing in mind that it is rather a simile than a fact, it will serve to picture to the mind what happens when the telephone is in operation. Suppose that the current of electricity is represented by a steady stream issuing from a pipe, and running along smoothly. At the point S the current strikes a stone, and is thenceforth thrown into waves. After this, the current flows over a dam, T. If the dam is easily shaken, the waves will communicate to it vibrations, and those vibrations will exactly correspond to the waves. Applying this conception to the telephone, the approach of the metal G occasions waves in the electric current, and these are communicated by the current to the vibrating lid D. In an exceedingly instructive lecture a few nights ago on the Gramme electric light, at Cooper Institute, Dr. G. F. Barker made clear Faraday's view of this subject. There are rays of force extending in certain well-ascertained curves around and to some distance from the poles of a magnet. Whatever contracts or expands that field of force, creates a current of electricity, or, where a current already exists, strengthens or weakens it. And this, again, is the effect of the approach of iron to the poles, or its removal from them, as Dr. Barker proved to his audience by the oscillation of a galvanometer, the image of which was magnified and thrown on a screen by electric light. But what actually takes place in the iron of the magnet around which the current flows, is a rearrangement of its molecules. Mr. Joule of England has the credit of discovering, many years ago, that the iron through which an electric current flows is elongated during the passage of the current. A series of exact experiments by Prof. A. M. Mayer, about five years ago, developed a large amount of curious data on this subject. Among other things proved was the fact that a lengthening occurs in an iron rod around which a current is passing; and that the increase in the volume of the rod thus caused, is exactly equaled by a reduction in volume—a shrinkage in the diameter of the rod. Another point ascertained was that the change in the dimensions of metal is practically instantaneous; the whole change of length produced by a given strength of electricity is equally great whether the current is turned on very slowly or all at once. Just so in the operation of the telephone, the changes in the strength of the current must be wholly and instantly transmitted, no matter what may be their number and variety. Furthermore—and this is a very suggestive experiment—if the metal G on the membrane is suffered to rest against the magnetic poles, any sounds sent will still be heard, though faintly. They are reproduced by the molecular movements of the iron itself.

WHAT THE SPIRITUALIST MEDIUMS MISSED.

In point of fact the last-mentioned contrivance is to some extent a reproduction of the earliest telephone, invented by a German—Philip Reiss—about 15 years ago. In that telephone the vibrations of a stretched membrane in the sending instrument were caused to make and break an electric circuit. The receiving instrument was a single-coil magnet inclosing an iron bar, and was mounted on a sounding box. Music could be transmitted by this telephone, and further contrivances developed the sounds received so that they could be heard in a large hall. But only the sound of the notes—i. e., the pitch of the music—was transmitted. The notes were all equal in strength and quality. A much greater success in sending music by electricity has been latterly achieved by the telephone of Mr. Elisha Gray of Chicago. The public has more or less confounded the performances of this instrument with those of the one invented by Prof. Bell. Mr. Gray's telephone was shown at the Centennial Exhibition, and called forth much interest among the men of science who examined it. Its leading feature is the use of tuning-forks. A tuning-fork may be so introduced into a telegraphic circuit as to make and break the circuit. Such a fork, vibrating a certain fixed number of times per second, according to its special pitch or musical note, will break and restore the electric current an equal number of times per second. Four years ago Mr. Gray made a curious discovery as to some means by which this intermittent current can be made audible. If the believers in mesmerism and psychic force had known of it in time, they might have made much capital for their theories out of that discovery and the mystery that enshrouded the performance. Mr. Gray had a violin with a silver plate set in the front of it. If the end of a wire over which was sent an intermittent current such as has been described was held in the hand, and the fingers of the same hand were lightly rubbed over the silver plate, the note of the tuning-fork at the other end of the line was reproduced, and could be distinctly heard proceeding from the violin. A yet more curious result is attained if the violin is made to rotate horizontally, or if there is substituted for it a revolving sounding box the front of which is covered with a sheet of metal. The fingers of the hand holding the telegraph wire are to be pressed against the rotating metallic plate; then the faster the plate revolves, the louder is the reproduced sound. It can be easily heard throughout a large hall. There is evidently a limit to the loudness of the sound, as with high speed the operator's fingers will be too hard rubbed. Why must the human hand intervene? If an exhibitor at a spiritual seance had shown that apparatus in 1873 and asked that question, the men of science could not have answered him. He could have triumphantly turned his revolving fiddle and said with Hamlet—"Ay! there's the rub!" But when Mr. Gray took this contrivance with him to England and got Prof. Tyndall's aid in experimenting upon it, another discovery was made which wholly changed the aspect. It was shown that neither the human hand, nor living nerve, nor vitality itself was needful as a medium of communication. Prof. Tyndall reproduced the musical sound when he substituted a piece of salt pork for the human hand!

THE SOUNDING BOX RECEIVER.

In Gray's, as in Bell's telephone, a continuous current from a main battery is required. The Gray sending instrument is in outward shape a piano of two octaves. The tune to be transmitted must be played on the keys of this piano. Each key has its own tuning fork, and when a key is depressed a part of the electric current that travels through the main line is diverted so that it goes through that particular tuning fork. The mechanism by which the electric current is thus switched on and off the line by a touch to a piano key is somewhat complex, and its details would not be of interest to the general reader. The receiving instrument is an electro-magnet, K K, mounted by one of its coils and a support, J, upon a sounding box, L. The prong of a tuning fork, M, approaches very nearly but does not quite touch one pole of the magnet; the handle of the fork is connected with the other pole through the support, J. When the apparatus is thus arranged, there must of course be a separate sounding box for every note that the telephone transmits.

CAPABILITY OF THE MUSICAL TELEGRAPH.

By using in the sending apparatus, in addition to the main current, a current from smaller, special batteries, one for each note, Mr. Gray has achieved a further improvement. By this the intensity of a musical note is given, as well as the note itself. Chords of two or three notes can also be transmitted. It will be seen that the receiving tuning fork selects out from the main current the electrical impulses or the making and breaking of the current, which correspond to its own vibration. Hence a receiving tuning fork will only sound when a sending tuning fork of the same note or pitch is transmitting. The practical use which is claimed for this is that by it several messages of the ordinary Morse signals may be sent from a central office over a single line, and no one of them will be repeated at any station except the one for which each message is designed, as every station will have a receiving instrument that sounds to a different note from the others, and the operator at the central office taps for each on a different key. Although the current for the note or pitch is intermittent, its pulsations are so rapid (several hundred in a second) that for telegraphing purposes it may be regarded as a continuous current. The Morse signals make and break this intermittent current just as they would an ordinary one. The receiving operator hears the message in the make and break of Morse signals from his sounding box. In one of the more recent designs for his telephone, Mr. Gray proposes to put a diaphragm or membrane in front of the opening of the sounding box to catch the vibrations and communicate them to a printing machine, which in turn will print the message in Morse signals or telegraphic tape.

A COMPARISON OF TELEPHONES.

It will be seen that the difference between these telephones is very great. The Gray telephone operates by means of tuning forks, and the signals are sent by a make-and-break system, as telegraphic signals usually are. In the Bell telephone the current is not "shunted" or switched; there is nothing done on the make-and-break system either as to vibrations or signals; and finally, the vibrations are the signals. From these radical differences it results also that the Gray telephone can only transmit two of the three characteristics of musical sound; *i. e.*, pitch and intensity, but not quality. So long as the vibration must be transmitted through tuning forks, the Gray telephone can never transmit what Helmholtz has called the "overtones." These are weaker harmonic notes which accompany the primary tone and differ for each musical instrument; they make the variety to our ears of quality of sound by which we distinguish, for instance, between the notes of a flute and of a violin. These overtones are not given by tuning forks, and cannot be. On the other hand, no matter what may be the hight, length, or frequency of the sound waves that strike the stretched membrane in the Bell telephone, their exact counterpart in vibration can be reproduced at the other end of the line. But at best the vibrations in Prof. Bell's device can only affect a part of the current; they may be essentially feeble, compared with signals on a make-and-break system. If recent accounts are to be trusted, this defect has been measurably overcome by the use of a stronger electro-magnet. Perhaps the harmony which both inventors are desirous of mastering may extend from sound to sense, and the two telephones may some day work literally in concert. When that is done it may be practicable to set up a sound-board behind an orchestra and telegraph its whole performance to a distant city. Meanwhile the public will have plenty of time to form an opinion on the comparative merits of the instruments, and to recover from the present confusion of ideas which was so admirably exemplified at Philadelphia by inquiries made in the Main Building for "the talking-machine of Bellham Gray."

JUDGE RUSSELL'S RETURN.

HE GOES TO WASHINGTON—HIS DIPLOMACY AT VENEZUELA.

Ex-Judge Thomas Russell of Massachusetts, Minister Resident at Caracas, Venezuela, since 1874, who was recently recalled by telegraph, arrived in this city on Thursday, after a stormy passage, and departed for Washington on the 3 p. m. train yesterday. Judge Russell will lay the subject matter of the quarrel with the Venezuelan authorities—which he says was of their own seeking—before the Secretary of State.

The trouble between the United States Minister and President Guzman Blanco of Venezuela dates from May of last year, when Mr. Bartram, bearer of dispatches to Washington, Dr. Albert Nostrand of this city, and Dr. Charles W. Torrey of Yonkers, N. Y., were arbitrarily thrown into prison on an order signed by President Blanco, the only apparent reason being a request on their part for permission to depart from the seaport of Caracas on the English steamer for the island of Curacoa. Minister Russell immediately took steps to redress the outrage, and by evening a dispatch was received from President Blanco ordering the release of the prisoners, permitting their journey to Curacoa, and expressing his regret at the occurrence. At the same time he was offended by the zeal of the American Minister for the liberty of American citizens, and when a volume of diplomatic correspondence came into his hands, including letters of Judge Russell to the State Department, imputing a want of integrity to the Venezuelan authorities, President Blanco broke off official relations with Minister Russell, ordered the Venezuelan Cabinet not to recognize him, and presented him with his passports.

The obnoxious correspondence was written by Judge Russell soon after taking upon himself the duties of the new mission. Certain claims of United States citizens against Venezuela had been adjusted by a mixed commission, but the Venezuelan Government excused itself from paying the claims on the ground that it suspected corrupt motives on the part of the commissioners. Mr. Russell intimated in his dispatch that the United States could obtain the money due in one of two ways—either by coercive measures or by dividing a part of the money among the principal officials of the Venezuelan Government. Judge Russell says he will sustain his charges of corruption among Venezuelan officials by showing the manner in which the claims of other Governments against President Blanco's administration have been settled.

LOCAL MISCELLANY.

GOOD FRIDAY SERVICES.

IMPOSING AND SOMBER CEREMONIES OF THE CATHOLIC CHURCH—EXERCISES IN THE PROTESTANT EPISCOPAL CHURCHES.

Good Friday was more generally observed yesterday in all the Roman Catholic and Episcopal churches than in former years, and the ceremonies attracted large congregations. Appropriate sermons were delivered in some churches in the evening. Many business places were closed out of respect to the day, all the exchanges, except the Produce, entirely suspending transactions. The public schools and some of the theaters were also closed.

The services during Holy Week in the Catholic churches never fail to attract large crowds of worshipers, and especially on Good Friday. Every other day throughout the year mass is celebrated, but on this day the ceremonies consist only of a representation of the Passion. The host which is received by the celebrant is the one consecrated on the day previous, and for this reason the service is termed the Mass of the Presanctified. The service is seemingly broken and disjointed, and nothing like it is held at any other time of the year. Lessons and tracts that contain the prophecy of the Redeemer are read, the history of the Passion, as related by St. John, is sung or read. These services, with prayers for all classes of people and the adoration of the cross, are the principal features of the office of the day.

At St. Ann's Church, in East Twelfth-st., the services began at 9 o'clock, and every seat in the church was occupied, many people being obliged to stand in the aisles. The church was heavily draped in mourning. The large candlesticks were covered with black cloth, and the altar was almost hidden with covering of the same somber hue. The reredos and the large painting of St. Ann were also vailed with black. There were no ornaments on the large altar except the few small candles which were lighted towards the conclusion of the service. The priests entered the sanctuary dressed in black vestments, and the altar boys wore black cassocks with white surplices, over which and across the breast was a large black scarf. The celebrant was Vicar-General Preston, assisted by Father Lynch as deacon and Father Hayes as subdeacon. They prostrated themselves before the altar while an acolyte placed a linen cloth on it. The lessons and tracts were then read, after which the celebrant read the Passion, Father Lynch, the deacon, reading it aloud in English to the people. Prayers were then offered separately for the Pope, the bishops, priests, ecclesiastics, heretics, schismatics and others. At the beginning of each prayer the people and clergy knelt down. A prayer was also said for the Jews, but the knee was not bent. This was omitted because it was in mockery that the Jews knelt before Christ. After the prayers the Adoration of the Cross by the priests was begun. The celebrant divested himself of the chasuble or outer vestment, and, taking from the altar the cross, covered with a vail, he went to the Epistle corner, and, uncovering the top, showed it to the people, at the same time singing "Ecce lignum crucis" (Behold the wood of the cross), the deacon responding, "In quo salus mundi pependit" (On which the salvation of the world was hanged). From there the celebrant proceeded to the right or Gospel side of the altar and uncovered the right arm, repeating the same words, and lastly he stood before the middle of the altar, uncovered the whole cross, singing a third time the words already mentioned. The cross was then carried to a convenient place in the sanctuary, where the clergymen kissed it, after kneeling and bowing before it at three different places. When the adoration by the priests was finished, the candles were lighted, and the cross was put in a prominent place on the altar. The host consecrated the day before was then brought from the repository, with little ceremony. It was placed on the altar and fumed with incense, and afterward the celebrant received the sacrament. The ceremony was concluded with the adoration of the cross by the people. No bells or music were allowed during the service.

Appropriate services were held in all the Protestant Episcopal churches yesterday, and in many cases the day was observed by fasting and prayer. In all the churches the chancel and altars were draped and the services were of a solemn and imposing nature. Before 11 o'clock, the hour appointed for the services, Trinity Church was thronged by a large congregation. The church and chancel were heavily draped in mourning and the choir boys were dressed in black cassocks and white surplices. After the usual service of morning prayer, a sermon was delivered by the Rev. Dr. Dix. After the sermon the "Passion" of Haydn was sung. This has never before been given in this country. The Rev. Dr. Dix was assisted by the Rev. Dr. Ogilby and the Rev. Mr. Hitchings. Similar services were held in the afternoon. At the Church of the Transfiguration the Rev. Dr. G. H. Houghton conducted services in the morning, afternoon, and evening. From noon until 3 p. m. the service of the "Three Hours' Agony" was observed, accompanied by music, and was very solemn and imposing. The Rev. Dr. Houghton officiated, and was assisted by the Rev. E. C. Houghton and the Rev. Mr. Douglass. At St. Thomas's the services attracted a very large audience. The Rev. Dr. W. T. Morgan conducted the services and delivered a sermon upon the sufferings of the Savior. At the Church of St. Ignatius the church was opened for private devotions and meditations. At 9 a. m. morning prayer was read, with a sermon; at 10:30, litany; at 11 a. m., reproaches and responses were sung by the congregation and choir. The observance of the day was brought to a close with the service of the "Three Hours' Agony."

AMERICA AT THE PARIS EXHIBITION.

PROGRESS OF THE EFFORT TO SECURE REPRESENTATION.

Nathan Appleton of Boston, Mr. Stuckle, formerly United States Consul at Mexico, and Mr. Salmon of New-York, who have been interesting themselves in securing American representation in the Paris Exposition of 1878, yesterday informed a TRIBUNE reporter of the progress making toward that end. From what they have ascertained it appears that a very general objection is felt against the appointment of a *pro tempore* commissioner or commission, pending the application to be made to Congress at its extra session in June for an appropriation. The objection arises from the belief that in the event of the appointment of a temporary commissioner who is not acceptable to the House of Representatives that body would refuse the necessary appropriation, and that the country would therefore be unable to be represented at the Exhibition. It was also believed that the result of the application for an appropriation largely depended upon the action of the Supreme Court in regard to the refunding of the Government fund of $1,500,000 given to the Centennial, and that if the decision should be against the Government, Congress would refuse to make any appropriation. It is proposed that in order to test public feeling on the subject a meeting of manufacturers and intending exhibitors shall be called in New-York, at which resolutions petitioning Congress for an appropriation shall be submitted, and that similar meetings shall be held in the leading manufacturing centers of New-England and the Middle States, which it is expected will furnish the largest number of would-be exhibitors. It has been learned that two Frenchmen, representing themselves as being connected with the French Centennial Commission and as duly accredited by the French Government, have been visiting several leading manufacturers with a view to inducing them to take an active part in advocating the representation of the United States at the Exposition; but the French authorities deny that these men have any authority to act in the matter.

J. W. Brown, President of the New-York Furniture Board of Trade, says that the board was prepared to coöperate heartily with any body for the purpose of securing an exhibit of American manufactures. The board believed that the increasing competition which had sprung up of late years between French, Spanish, and American furniture rendered it absolutely necessary that the trade of the United States should be represented at every foreign exhibition. This was the case especially in regard to France, the low price at which French labor was secured proving a serious hinderance to the development of American trade in furniture on the Continent, and it was only by having proper facilities afforded them for showing how far American furniture was ahead of foreign in artistic designs and finish that the trade could ever hope to command any business abroad. The Centennial Exhibition had developed the export of American furniture to Mexico and the West India Islands, and it was now proposed to send out agents to the Colonies on behalf of the trade, the leading manufacturers of New-York bearing the expense.

Franklin Allen, Secretary of the Silk Association of America, said that no organized action had yet been taken by the association to secure a department of American silk manufactures. One of the leading manufacturers in New-York would visit Paris in the course of a few weeks, and would then report to the association how far such a department would be likely to prove successful.

THE STEVENS BATTERY.

INSPECTING IT WITH A VIEW TO ITS SALE.

The Stevens Iron-clad Battery, which has been fully described in THE TRIBUNE, still lies in the trench at Hoboken where it was built. The commission appointed by the State of New-Jersey to effect a sale of the unfinished vessel has placed the matter in the hands of Capt. Samuels of No. 84 Broadway, and yesterday the battery was visited by a representative of a foreign Government, who was accompanied by Capt. Samuels, a number of engineers, and a TRIBUNE reporter. The party crossed the North River to Hoboken and inspected the vessel under the guidance of the attendant who has charge of it. The vessel was partially built by the late Edwin A. Stevens, who at his death left $1,000,000 to be expended in its completion. This sum was expended under the direction of Gen. George B. McClellan, but it was not sufficient to finish the vessel and make it an "effective iron-clad for purposes of war." It is estimated that to complete the battery will require $450,000. It now lies in what is termed a dry-dock and is covered by a shed. It is separated from the Hudson River by a bulkhead, which must be removed before the vessel can be floated. The vessel is 401 feet long and 54 feet in breadth. It contains 10 engines and 30 furnaces and is moved by two propellers. It is stated that the run between this city and Queenstown can be made by the Stevens Battery in 7½ days.

The party yesterday examined every part of the vessel. The foreign representative—who is unwilling to be known at present in connection with any negotiations for the purchase of the battery—showed much interest, and frequently paused to inquire what the different parts were intended for. The numerous water-tight coal-bunkers, which can be filled with water when the coal is removed, so as to keep the vessel submerged to the proper depth, attracted his close attention, and when the circuit of the vessel was completed, he inquired, "Where is the powder magazine?" The attendant replied that any of the coal-bunkers could be used for that purpose. When standing between the furnaces, he remarked, "Well, this you would call the infernal regions, wouldn't you?" What the result of yesterday's visit will be is not known, but Capt. Samuels is confident that he will effect a sale. He says that he can have the vessel completed and delivered at any point either in the Mediterranean or the Baltic Sea within a period of 60 days.

OUTLOOK FOR THE YACHTING SEASON.

DIFFICULTIES OF THE NEW-YORK CLUB—PREPARATIONS OF THE OTHER CLUBS FOR THE COMING SEASON.

The coming season promises to develop the usual amount of interest in yachting, notwithstanding the fact that the report of a committee of the New-York Yacht Club shows their financial condition to be such as to endanger its existence. There has been a spirit of rivalry for a number of years between the several yacht clubs, and a desire to suppress as far as possible the old organization. The members of the New-York Yacht Club themselves have contributed largely to this opposition, particularly the non-yacht owners. Past experience has shown that the membership of yacht clubs increases in proportion as public attention is directed toward yachting, and the inducements offered by the clubs to their members. In the New-York Yacht Club only the yacht owners are allowed to vote upon any question; consequently, of the membership of 459, 80 yacht owners are accused of using this arbitrary measure to deprive the remainder of the few privileges which they demand. With an indebtedness of $7,500, there are none who seem willing to contribute a pro rata amount to extinguish the debt, while some of the non-yacht owners say that a subscription paper would meet with a hearty response if, as in other clubs, they were allowed a voice in the business of the club except that which pertains strictly to yachting. It was proposed, in order to lessen the expenses, that both the club-houses at Stapleton and in Madison-ave. be given up, and that the meetings of the club be held at some restaurant; that the expenses of the June regatta, including prizes, be limited to $2,500, and those of the regular Autumn regatta to $500. The non-yacht owners were indignant at this action, and claimed that it was virtually an attempt to force them out of the club, as well as a blow to its existence. Without their financial support they claimed that the club would become extinct. By a subsequent action of the club it has been resolved to retain their club-house in this city.

Other yacht clubs are making up an elaborate programme for the season. The Seawanhaka Club has announced its first race, a Corinthian race, for June 16, for first and second-class sloops, and second-class schooners, one prize in each class of $150. In case the schooner class should not fill, the regatta committee will appoint another day for the race to take place. The second race will be held on June 23, and is to be an ocean race for first and second-class schooners; owners to command and steer their own boats, with the usual restrictions. There will be one prize in each class valued at $400. The third race will be the annual regatta at Oyster Bay, July 4. There will be five prizes in this race of $50 each. The fourth race will come off on July 28, and is to be for open boats at Oyster Bay, one $50 prize in each class. The "Ladies' Day" regatta was not fully determined upon.

The Brooklyn Yacht Club, which has heretofore been classed second to the New-York Club, and many of whose members also belong to the older club, is slowly but surely creeping up to the first rank. It maintains two club-houses, one at Montague and Court-sts., Brooklyn, and the other at Red Hook. It is out of debt, with a membership of over 200 active members, all of whom are not only allowed to engage in debating a subject, but have the privilege of voting, except upon matters relating to courses, cruises, and all sailing regulations. The usual regattas will be held, and every Saturday is recommended to be set apart as a sailing day for ladies and non-yacht owners, to whom a general invitation will be given.

Pending the dissatisfaction among the members of the New-York Club, other clubs which have been third in prominence are making strenuous efforts to build up, and are gaining good members and weeding out the undesirable. Among the first of these may be mentioned the Columbia Yacht Club, which is free from debt. Their club-house at the foot of Eighty-sixth-st., Hudson River, is regarded as the most accessible of any yacht club-house in the city. The officers and members have an equal voice, whether owning yachts or not.

Among other clubs which are coming into greater prominence are the Long Island, Manhattan, Williamsburgh, Hudson River, and Jersey City clubs. Their boats are not considered capable of withstanding the perils of ocean racing as those of the New-York, Brooklyn, and Seawanhaka clubs, but as they build new yachts their size will probably be increased. The several regattas which they give during the season are made particularly interesting to their members as well as the public.

In consequence of business depression, fewer keels have been laid down for new yachts than for years past, and it is now too late to build for the coming season. With the beginning of better times, which now seem near at hand, yachting men from all parts of the seaboard have opened negotiations for the purchase of yachts. The following figures show the condition and prospects of the yachting market: At Manning's Yachting Agency the following yachts are reported for sale, with the number of applications for each class: Schooners, 18; applicants, 29. Cabin sloops, 28; applicants, 47. Open sloops, 8; applicants, 19. Cat-boats, 6; applicants, 11. Steam yachts, 10; applicants, 14. The center-board sloop yacht Pirate, formerly belonging to Ross R. Winans of the New-York Club, has been sold to Commodore J. H. Voody of the Jersey City Yacht Club for $3,500. The Pirate was built about a year ago, and no expense was spared in the construction of the vessel, which is completely equipped and furnished with great taste. The yacht will be added to the roll of the New-York and Jersey City clubs. Mr. Winans has purchased the sloop yacht Arrow, which will be replaced on the roll of the New-York Club.

THE ELEVATED ROAD ON BATTERY PARK.

TRIAL TRIP OVER THE NEW SECTION—THE NEW TIME TABLE.

A trial trip was made yesterday afternoon over the new section of the New-York Elevated Railroad across Battery Park. At 3 o'clock a dummy engine, with two passenger cars attached, started from the station at Bowling Green carrying Mr. Courtwright, the Vice-President of the road, Mr. Cowing, the Secretary, Mr. Onderdonk, the Superintendent, and Mr. Freer. The superintendent took the brake himself at Whitehall-st., and the officers carefully examined the construction of the temporary depot. Mr. Courtwright and Mr. Cowing walked back along the track to the station at Bowling Green, examining the tracks and switches. The officers expressed satisfaction with the manner in which everything worked. The rails of the new section are made of steel weighing 50 pounds to the yard, and are much stronger than those used on other parts of the road. Mr. Courtwright said that the new structure was strong enough to carry trains of any surface road, and that the cars and the road itself were so guarded that it would be impossible for a train to leave the track if any accident should occur.

Trains for the conveyance of passengers will begin to run to Whitehall-st. on April 5, and a new time-table will be issued on Monday. There will then be run 228 trains over the road daily—188 between the South Ferry and Fifty-ninth-st., and 40 between the South Ferry and Thirtieth-st. The last train from the down-town station in the evening will leave at 7:26 p. m., 22 minutes later than previously, and only 8 minutes will elapse between the arrival of trains at the various stations along the route. The first train down town will leave Fifty-ninth st. at 6 a. m. On Sundays the trains will run every 16 minutes from 7:30 a. m. until 12:55 p. m. From that hour until 5:03 p. m., they will leave every 8 minutes, as on week days, up to 7:30 p. m. The company will add two more cars to the number already on the road, and a new engine will be ready in about a week. The entire length of the road is now five miles, and the trip, including stoppages, will be made in 30 minutes. The full carrying capacity, the superintendent states, is about 13,000 passengers daily.

POLICE AND PARK JURISDICTION.

A DISPUTE ABOUT ARRESTS ON PARK SIDEWALKS.

The Police Commissioners yesterday received a communication from the Park Commissioners relative to their jurisdiction on the sidewalks surrounding the parks. Granville F. Snelling, the son of a well-known gentleman, on March 13 was riding on a velocipede around the Worth monument. Capt. Williams ordered the boy to stop. The lad then passed over to the Madison-square park sidewalk and resumed his riding. Capt. Williams thereupon arrested him, but he was discharged by a police justice. The Park Commissioners claimed that the arrest was unlawful, and in their letter to the Police Board they take the ground that the boy was in their jurisdiction when he was arrested. Velocipede riding is permitted in their domain. Capt. Williams declared that the place where he made the arrest was covered by his patrolmen and he had jurisdiction. The Police Commissioners referred the matter to their counsel for his opinion.

In speaking yesterday of the claim made by the Park Commission, Gen. Smith, President of the Police Board, said to a TRIBUNE reporter that if their views were correct, criminals would be safe from molestation in any of the parks. The claim was ridiculous. It was well understood that the Park Board had the control of park affairs, but the notion that the police could not make arrests there was absurd. It was not, however, clear to his mind that the arrest was made on property over which the Park Board had jurisdiction. The sidewalks had to be patrolled by the police and in his opinion the arrest was lawful.

It is understood that Mr. Snelling will prefer charges against Capt. Williams for making an unlawful arrest and a suit for damage is also threatened. There is a prospect of a long controversy between the two commissions as to their limits of jurisdiction.

A HERO ON THE POLICE FORCE.

The Police Commissioners yesterday presented a handsomely-engrossed testimonial to Officer Philip C. Bleil of the Ninth Precinct, for his bravery in saving the life of Philip Fitzgerald of No. 351 West Forty-second-st., who fell into the river on the evening of Feb. 12, at the foot of West Tenth-st. Gen. Smith declared that the gallant and meritorious conduct of the officer deserved more than passing consideration. The officer clung to the drowning man, who dragged him beneath the water until he was nearly lifeless, and when drawn from the water the officer was utterly exhausted. This was not the only case where the officer had imperiled his own life, the Commissioner said, in saving others. In 13 other instances he had displayed similar bravery and had saved life. The Commissioner said further recognition of his bravery would be displayed at the proper time. The officer thanked the Commissioners for the expression of their good will, declared he had only done his duty, and hoped he would always prove worthy of their regard and confidence.

PLANS FOR COLLEGE CONTESTS.

ACCEPTING THE NEW CONSTITUTION OF THE INTERCOLLEGIATE ASSOCIATION.

The Intercollegiate Literary Association met yesterday at the Fifth Avenue Hotel to adopt the new constitution. Among those present were Chancellor Crosby and Presidents McCosh and Cattell, Charlton T. Lewis, J. H. Morse, the Rev. T. W. Chambers, and Dwight H. Olmstead. The colleges and universities represented by delegates were: Princeton, Williams, Syracuse, University of the City of New-York, College of the City of New-York, North-Western University, Hamilton, Rutgers, St. John's, Lafayette, Cornell, Madison, and Wesleyan. Eugene Frayer of Cornell presided, and John Krantz, jr., of North-Western University was Secretary. The Treasurer's report showed a balance on hand of $32. H. B. McCauley, jr., reported in behalf of the committee appointed to draft a constitution. The committee reported that an act of incorporation seemed necessary, and the constitution was revised with that object in view. Dwight H. Olmstead said that he had suggested that it was for the best interest of the Association that it be incorporated. It would then be a more permanent organization than at present, and the trustees appointed would be held strictly responsible for their disposition of the funds in their hands. It was then voted that the association be incorporated, and afterward that the following should be the Board of Trustees: Chancellor Crosby and President McCosh, Vice-President Russel, Charlton T. Lewis, T. W. Higginson, George W. Curtis, Cyrus Field, Dwight H. Olmstead, and Allan Marquand.

The constitution was accepted section by section, and in the lively discussions that ensued Chancellor Crosby of New-York, President McCosh of Princeton, President Cattell of Lafayette, C. T. Lewis, and Messrs. Olmstead, Clark, and Lehmaier took part. Chancellor Crosby commended the new constitution, as it made the young men the driving-wheels of the association, while such old fogies as himself, as he put it, cared for the finances, and lent their advice when needed. He thought, however, that the constitution was somewhat cumbersome, and that the council of regents should be simply called the executive committee. He was particularly in favor of keeping the office of trustee separate from the workings of the association as was specified. The debate on Section 21, on the qualifications of competitors, was especially protracted. It was at length amended so as to read as follows:

"Any student who is a member of this association and who is pursuing a general collegiate or university course for the degree of bachelor of arts, science, philosophy, or literature, or has had such conferred upon him within a year previous to the annual contests and examinations, shall be eligible to compete at such contests and examinations, under such rules as the Council of Regents shall prescribe in addition to rules herein existing."

The whole discussion was nearly five hours in length, and was ended by the adoption of the new constitution, with several amendments. The leading features of the constitution have already been outlined in THE TRIBUNE. One amendment was the creation of Article 29, which reads as follows:

"Fellowships may be founded in the various colleges and universities, in such manner as the Board of Regents shall advise and a majority of the board of trustees approve."

Until the certificate of incorporation has been granted by the State authorities, the present officers of the association will continue in power. At that time the incorporators, acting as the board of trustees, will call a meeting for the election of officers under the new constitution.

ORGANIZING THE CARNIVAL SCHEME.

A meeting of gentlemen interested in arranging an industrial and carnival procession met at the Sturtevant House last evening. An organization was effected; Gen. Alexander Shaler was elected permanent chairman of the Executive Committee, ex-Mayor Gunther treasurer, and W. Brillard secretary. The other members, who have power to increase their numbers as they see fit, are Col. St. Martin, Col. F. E. Howe, Major E. M. Earle, Alderman S. A. Lewis, Alderman J. C. Pinckney, Samuel Carpenter, A. L. Benjamin, Lock W. Winchester, and Herman Uhl. Col. St. Martin said he had canvassed the city thoroughly, and had received much encouragement for a carnival. It was proposed to arrange a pageant representing the history of America. This would consist of tableaus on moving platforms, and would be in the evening. It would not supersede the industrial exposition in the daytime. The necessary expense would be at least $18,000. Representatives of the Transportation Committee, consisting of W. A. Bates of the Baltimore and Ohio Railroad, C. B. Meeker of the New-York Central, A. L. Bingham of the New-York, New-Haven and Hartford; Samuel Carpenter of the Pennsylvania, G. M. Huntington of the Virginia Midland, and C. P. McFaddin of the New-Jersey Southern stated that they would arrange for reduced rates all along their lines. It was decided that the fête could not take place earlier than May 1, because of the work involved by the pageant. A further meeting was appointed for Monday evening at 8 o'clock, at the Sturtevant House.

MR. AGER'S ATTEMPT TO RECOVER HIS CHILD.

Officer Roosa of the Twenty-ninth Precinct, while on post on West Fortieth-st., on Wednesday afternoon, was attracted by hearing cries for help and seeing a crowd outside No. 105 West Fortieth-st. He found that a girl, 9 years old, was the cause of the disturbance. A gentleman was attempting to carry her away, claiming her as his daughter; several ladies were around him, also holding on to the child, and claiming that she belonged to them. At the Washington Place Police Court yesterday the gentleman gave his name as L. C. Ager of Washington, D. C. His story is that the child is his only daughter. Three years ago he began proceedings for a divorce against his wife, on the ground of adultery, and she then carried away the child, and went West herself. He has been unable to find his child until very recently, when he discovered that she was residing with her aunt, his wife's sister, at No. 105 West Fortieth-st. He now claims the right to obtain possession of and support his child. Himself and his father were married to two sisters, and both separated from their wives. The persons with whom the child was found state that Mr. Ager abandoned it three years ago, and they have supported it ever since. Justice Murray postponed the consideration of the case until to-day, and discharged Mr. Ager. A decision is expected in his divorce proceedings to-day.

ON SHORE ALONG THE ATLANTIC COAST.

The ship Winchester, which went ashore at Cape Henry, was got off at yesterday morning's tide, and towed to Norfolk.

The schooner Zuletta Kenyon, from Hartford to Richmond, Va., with fish guano, went ashore during the night of March 29, on Townsend Inlet bar. Capt. Willetts of Life-Saving Station No. 34 went to her assistance, and will probably get her off.

The work of discharging the cargo of the Rusland was continued yesterday, and it is expected that two or three lighter-loads will arrive at the city to-day. The prevailing north-west wind of yesterday and day before has depressed the tides, and the water is too shallow to allow the cargo to be loaded into the lighters direct, consequently it is transferred by the surf boats.

The Amerique lies in a position which is said to be favorable for floating her when the wind changes and allows the water to flow back again to its usual depth.

THE LEISURE HOUR SERIES.

To the Editor of The Tribune.

SIR: While thanking you for the "first-rate notice" that you were kind enough to give the Leisure Hour Series this morning, we must beg that as the directness and distinctness of its statements are apt to convey the impression that they are authoritative, you will, in justice to your own accuracy as well as other interests concerned, inform your readers that this is not strictly the case. The figures were not supplied by anybody here whose business it is to know them, but, so far as we can learn, were gathered as literary items generally are, in a desultory conversation, this conversation being held with a clerk who spoke from vague impressions. Naturally, the general drift of the statements is correct, and equally naturally, under the circumstances, some of its details are very incorrect.

We cannot permit ourselves to say this without adding that in your ordinary literary items which avoid the dangerous ground of figures, we have been struck by their promptness, fullness, and accuracy. If our experience is good for anything, they must be of great service to all who care for books. Very respectfully yours,

New-York, March 30, 1877. HENRY HOLT & CO.

NAVAL INTELLIGENCE.

WASHINGTON, March 30.—Rear-Admiral John J. Almy has been ordered to duty as President of the Board of Naval Inspectors, and Capt. John H. Upshur has been ordered to duty as a member of that board, which is now complete, the other members being Capt. James E. Jouett, Lieut.-Commander Wm. B. Hoff, Chief Engineer James W. Thompson, jr., and Medical Director R. T. Maccoun. As mentioned a few days ago, the board will be under the special direction of Admiral Porter.

Rear-Admiral Reed Werden, U. S. N., has been retired at his own request, and Commodore Thomas H. Patterson has been promoted to the grade of rear-admiral to fill the vacancy. The next promotion to that grade will be that of Commodore J. C. Howell, Chief of the Bureau of Yards and Docks on the 24th of April, who will be promoted to fill the vacancy caused by the retirement of Rear-Admiral John J. Almy at that time.

The sailing vessel Saratoga, now being fitted up at the Washington Navy Yard, will sail the latter part of next month or the 1st of May for a cruise along the coast with the boys from the training ships at New-York, Baltimore, and Boston on board. The Saratoga will be commanded by Lieut.-Commander R. H. Evans, and the cruise will be for a year or more to instruct the boys in practical seamanship.

A poem, entitled "Tilden's Ride" is not rejected for lack of literary merit—but what is the use of hitting a man when he is down? Let us have mercy.—[Rochester Democrat and Chronicle.